Appl. No. 10/682,330

Amdt. dated: July 17, 2006

Reply to Office Action of April 17, 2006

## Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

## **Listing of Claims:**

(Currently Amended) A method for partitioning, comprising:
 receiving a data access request, said data access request includes one or more
 variables in a first format;

determining one or more data stores of a set of data stores to service said data access request, said step of determining includes accessing one or more mappings of said one or more variables to said set of data stores and using said mappings to evaluate partition expressions for said data stores wherein said set of data stores comprises at least one relational database and at least one Lightweight Directory Access Protocol (LDAP) directory; and sending information for said data access request to said one or more data stores determined to service said data access request.

- 2. (Currently Amended) A method according to claim 1, wherein: said data access request includes a search operation operation.
- 3. (Original) A method according to claim 1, wherein: said data access request includes adding new data to a data store.
- 4. (Original) A method according to claim 1, wherein: said data access request includes accessing data in multiple data stores.
- 5. (Original) A method according to claim 1, wherein: said data access request includes accessing data in only one data store.
- 6. (Canceled)
- 7. (Original) A method according to claim 1, wherein:

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said set of data stores includes at least two relational databases.

- 8. (Canceled)
- 9. (Currently Amended) A method according to claim 1, wherein:

  said one or more data stores determined to service said data access request
  includes a relational database; and

said step of sending includes translating said data access request to a format suitable for said relational database and communicating said translated data access request to said relational database.

- 10. (Original) A method according to claim 9, further comprising: receiving a result from said relational database.
- 11. (Original) A method according to claim 9, further comprising: receiving a result from said relational database; and translating said result to said logical object class format.
- 12. (Original) A method according to claim 1, wherein: said data access request is from an Identity System.
- 13. (Original) A method according to claim 1, wherein: said data access request is from an Identity and Access System.
- 14. (Original) A method according to claim 1, wherein: said set of data stores store identity information.
- 15. (Original) A method according to claim 1, wherein: said partition expressions are in LDAP filter format.
- 16. (Original) A method according to claim 1, wherein:
  said first format is a logical object class format that is compatible with LDAP
  filter format.

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17. (Currently Amended) A method according to claim 1, wherein:

said one or more data stores determined to service said data access request
includes a relational database; and

said step of sending includes creating a custom filter for said data access request that is customized for said relational database to only include one or more variables mapped to said relational database.

- 18. (Original) A method according to claim 1, wherein:
  said data access request includes a filter;
  said filter includes said one or more variables; and
  said using of said mappings to evaluate partition expressions for said data stores includes determining whether said filter overlaps with said partition expressions based on said mappings.
- 19. (Original) A method according to claim 18, wherein determining whether said filter overlaps with said partition expressions based on said mappings comprises:

determining whether child sub-filters of said filter expression overlap with said partition expressions and combining results of said determination of whether child sub-filters overlap to determine whether said filter expression overlaps with said partition expressions, if said filter expression is a composite expression.

20. (Original) A method according to claim 18, wherein determining whether said filter overlaps with said partition expressions based on said mappings comprises:

performing a partition compare function using said filter expression and a first partition expression to determine whether said filter expression overlaps with said first partition expression, if said filter expression and said first partition expression are both simple expressions; and

performing said partition compare function by treating said filter expression as an input partition expression and treating said first partition expression as an input filter expression

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in order to determine whether said filter expression overlaps said first partition expression, if said first partition expression is a composite expression.

21. (Currently Amended) One or more processor readable storage devices having processor readable code embodied on said processor readable storage devices, said processor readable code for programming one or more processors to perform a method comprising:

receiving a data access request, said data access request includes one or more variables in a first format;

determining one or more data stores of a set of data stores to service said data access request, said step of determining includes accessing one or more mappings of said one or more variables to said set of data stores and using said mappings to evaluate partition expressions for said data stores wherein said set of data stores comprises at least one relational database and at least one Lightweight Directory Access Protocol (LDAP) directory; and

sending information for said data access request to said one or more data stores determined to service said data access request.

22. (Currently Amended) One or more processor readable storage devices according to claim 21, wherein:

said one or more data stores determined to service said data access request includes a relational database; and

said step of sending includes translating said data access request to a format suitable for said relational database based on said mappings and communicating said translated data access request to said relational database.

23. (Original) One or more processor readable storage devices according to claim 21, wherein:

said partition expressions are in LDAP filter format.

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24. (Original) One or more processor readable storage devices according to claim 21, wherein determining whether said filter overlaps with said partition expressions based on said mappings comprises:

performing a partition compare function using said filter expression and a first partition expression to determine whether said filter expression overlaps with said first partition expression, if said filter expression and said first partition expression are both simple expressions; and

performing said partition compare function by treating said filter expression as an input partition expression and treating said first partition expression as an input filter expression in order to determine whether said filter expression overlaps said first partition expression, if said first partition expression is a composite expression.

25. (Currently Amended) An apparatus that can partition, comprising: one or more storage devices; and

one or more processors in communication with said one or more storage devices, said one or more processors perform a method comprising:

accessing a data. access request, said data access request includes one or more variables in logical object class format,

determining one or more data stores of a set of data stores to service said data access request, said step of determining includes accessing one or more mappings of said one or more variables to said set of data stores and using said mappings to evaluate partition expressions for said data stores wherein said set of data stores comprises at least one relational database and at least one Lightweight Directory Access Protocol (LDAP) directory, and

sending information for said data access request to said one or more data stores determined to service said data access request.

26. (Currently Amended) An apparatus according to claim 25, wherein: said one or more data stores determined to service said data access request includes a relational database; and

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said step of sending includes translating said data access request to a format suitable for said relational database and communicating said translated data access request to said relational database.

27. (Original) An apparatus according to claim 25, wherein determining whether said filter overlaps with said partition expressions based on said mappings comprises:

performing a partition compare function using said filter expression and a first partition expression to determine whether said filter expression overlaps with said first partition expression, if said filter expression and said first partition expression are both simple expressions; and

performing said partition compare function by treating said filter expression as an input partition expression and treating said first partition expression as an input filter expression in order to determine whether said filter expression overlaps said first partition expression, if said first partition expression is a composite expression.

- 28. (Currently Amended) An apparatus that can partition a data access request, said data access request includes one or more variables in a first format, comprising:

  means for determining one or more data stores of a set of data stores to service said data access request, said step of determining includes accessing one or more mappings of said one or more variables to said set of data stores and using said mappings to evaluate partition expressions for said data stores wherein said set of data stores comprises at least one relational database and at least one Lightweight Directory Access Protocol (LDAP) directory; and means for sending said data access request to said one or more data stores determined to service said data access request.
- 29. (Currently Amended) A method for partitioning, comprising: receiving a filter expression for a data access request determining whether said filter expression overlaps with one or more partition expressions if said filter expression is a simple expression;

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determining whether child sub-filters of said filter expression overlap with said one or more partition expressions and combining results of said determination of whether child sub-filters overlap to determine whether said filter expression overlaps with said one or more partition expressions, if said filter expression is a composite expression; and

providing information for said filter expression to a set of data sources stores associated with one or more partition expressions that overlap with said filter expression wherein said set of data stores comprises at least one relational database and at least one Lightweight Directory Access Protocol (LDAP) directory.

- 30. (Currently Amended) A method according to claim 29, wherein:

  said one or more data stores include a relational database; and

  said step of providing includes translating said data access request to a format suitable for said relational database and communicating said translated data access request to said relational database.
  - 31. (Original) A method according to claim 30, further comprising: receiving a result from said relational database.
- 32. (Original) A method according to claim 30, further comprising:
  receiving a result from said relational database; and
  translating said result to a logical object class format, said data access request is in
  said logical class format.
  - 33. (Original) A method according to claim 29, wherein: said data access request is from an Identity System.
  - 34. (Original) A method according to claim 29, wherein: said data access request is from an Identity and Access System.
  - 35. (Original) A method according to claim 29, wherein: said set of data stores store identity information.

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36. (Currently Amended) A method according to claim 29, wherein said combining results comprises:

determining that said filter expression overlaps with a first partition expression if all child sub-filters overlaps overlap with said first partition expression and said child sub-filters form said filter expression based on an AND operator; and

determining that said filter expression overlaps with a first partition expression if any of said child sub-filters overlap with said first partition expression and said child sub-filters form said filter expression based on an OR operator.

37. (Original) A method according to claim 29, wherein said step of providing comprises:

removing terms not supported by a first data source from said information for said filter expression provided to said first data source.

38. (Currently Amended) One or more processor readable storage devices having processor readable code embodied on said processor readable storage devices, said processor readable code for programming one or more processors to perform a method <u>for partitioning</u> comprising:

receiving a filter expression for a data access request;

determining whether said filter expression overlaps with one or more partition expressions if said filter expression is a simple expression;

determining whether child sub-filters of said filter expression overlap with said one or more partition expressions and combining results of said determination of whether child sub-filters overlap to determine whether said filter expression overlaps with said one or more partition expressions, if said filter expression is a composite expression; and

providing information for said filter expression to <u>a set of one or more</u> data sources stores associated with one or more partition expressions that overlap with said filter expression <u>wherein said set of data stores comprises at least one relational database and at least one Lightweight Directory Access Protocol (LDAP) directory.</u>

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39. (Currently Amended) One or more processor readable storage devices according to claim 38, wherein:

said one or more data stores include a relational database; and

said step of providing includes translating said data access request to a format suitable for said relational database and communicating said translated data access request to said relational database.

40. (Currently Amended) One or more processor readable storage devices according to claim 38, wherein said combining results comprises:

determining that said filter expression overlaps with a first partition expression if all child sub-filters overlaps overlap with said first partition expression and said child sub-filters form said filter expression based on an AND operator; and

determining that said filter expression overlaps with a first partition expression if any of said child sub-filters overlap with said first partition expression and said child sub-filters form said filter expression based on an OR operator.

41. (Original) One or more processor readable storage devices according to claim 38, wherein said step of providing comprises:

removing terms not supported by a first data source from said information for said filter expression provided to said first data source.

42. (Currently Amended) A method for partitioning, comprising: receiving a filter expression for a data access request;

accessing a partition expressions expression for a first data source store of a set of data sources stores wherein said set of data stores comprises at least one relational database and at least one Lightweight Directory Access Protocol (LDAP) directory;

performing a partition compare function using said filter expression and said partition expression to determine whether said filter expression overlaps with said partition expression, if said filter expression and said partition expression are both simple expressions;

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performing said partition compare function by treating said filter expression as an input partition expression and treating said partition expression as an input filter expression in order to determine whether said filter expression overlaps said partition expression, if said partition expression is a composite expression; and

providing information for said filter expression to said first data source if said filter expression overlaps with said filter expression.

- 43. (Original) method according to claim 42, further comprising:

  performing said partition compare function for each child sub-filter of said filter expression and combining results of said step of performing said partition compare function for each child sub-filter to determine whether said filter expression overlaps with said partition expression, if said filter expression is a composite expression.
- 44. (Currently Amended) A method according to claim 42, wherein:

  said one or more data stores include a relational database; and

  said step of providing includes translating said data access request to a format
  suitable for said relational database and communicating said translated data access request to
  said relational database.
  - 45. (Original) A method according to claim 42, further comprising: receiving a result from said relational database.
- 46. (Original) A method according to claim 42, wherein said step of providing comprises:

removing terms not supported by a first data source from said information for said filter expression provided to said first data source.